

2-PAK / 4-PAK

Two or four zone perimeter alarm kit

Features & Benefits ▾

- 2 or 4 detection zones with up to 984 ft. (300 m) of sensor cable per zone
- High Probability of detection (Pd)
- Low Nuisance Alarm Rate (NAR)
- Sensor cable provides uniform sensitivity
- Detection parameters can be set and optimized independently for each zone
- Easy set up via DIP switch settings
- Indoor control module powers sensors and provides access to all controls and outputs
- Control module provides listen-in, self-test and supervision
- Control module provides back-up battery
- Optional armored cable for harsh environments
- Stand-alone system or easily integrated into larger systems
- System expansion via additional zones
- Robust and reliable

FENCE AND WALL-MOUNTED SENSORS

DESCRIPTION

2-PAK / 4-PAK kits provide the performance of its proven Fence Protection System (FPS) in a streamlined format that is quick to install, easy to set up and operate and interfaces easily to almost any alarm management system. A single control module located indoors powers the fence-mounted pre-amplifiers, performs all alarm processing and provides the user with convenient access to all user settings and alarm outputs.

APPLICATION

2-PAK and 4-PAK kits combine all the electronic and interconnect elements required to provide either 2 zones or 4 zones of detection respectively. A 2-PAK kit can support up to 2,000 ft. (610 m) of sensor cable, a 4-PAK kit can support up to 4,000 ft. (1,219 m) of sensor cable. Standard sensor cable, sold separately, is available in roll lengths of 328 ft. (100 m), 656 ft. (200 m) and 984 ft. (300m).

STANDARD 2-PAK / 4-PAK KIT CONTENTS

- One / two dual-zone fence-mounted sensor pre-amplifier(s)
- 2-PAK / 4-PAK control unit
- 1,000 / 2,000 ft. (305 / 610 m) cable for interconnecting control unit to pre-amplifier
- One spare TSK end-of-line terminator / splice kit and sealant
- Documentation CD
- Sensor cable sold separately

HELISENSOR 2-PAK / 4-PAK KIT CONTENTS

- One / two dual-zone fence-mounted sensor pre-amplifier(s)
- 2-PAK / 4-PAK control unit
- 1,000 / 2,000 ft. (305 / 610 m) cable for interconnecting control unit to pre-amplifier
- 984 / 1,968 ft. (100 / 200 m) Helisensor armored cable
- Documentation CD

HOW IT WORKS

The heart of the system is the FPS Sensor Cable which is a “Strain Sensitive Cable” type sensor. The sensor cable is attached directly to the fence fabric. Any mechanical disturbance in the fence causes a small strain on the sensor cable that is converted to an electrical signal. This signal is transported via the Pre-Amp (mounted on the fence) to the Control Unit.

The electronics are designed to match characteristics associated with cutting, climbing or lifting the fence fabric which are reported as alarm signals. State of the art signal processing filters out disturbances caused by wind, rain or other non-threatening factors.

The Pre-Amp housing is metal and all openings are gasketed and sealed for a weather tight fit. A tamper alarm is initiated by removing the cover or shorting the sensor cable.

The Control Unit supplies the necessary 12VDC to the Pre-Amp via interconnection cable supplied in the kit. The interconnection cable also carries the signals from the fence back to the Control Unit. In addition to supplying power for the system and an alarm alert for each zone, the Control Unit also provides an audio output to allow the operator to listen to mechanical disturbances on the fence. The control unit provides one relay output per zone and one combined relay for tamper. Self-test function, gain and count adjustments for each zone are also set at the Control Unit.

MICROPHONIC ELECTRET TRANSDUCER (MEX) CABLE

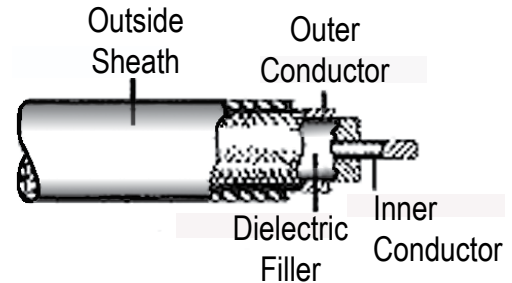
The MEX sensor cable is a 0.125 in. (3.2 mm) coaxial cable specially manufactured with a permanent electrical charge throughout its entire length. The charge is stored within the cable in the dielectric material. The transducer cable is then able to act as a long extended capacitor microphone for which the applied bias voltage is supplied internally.

Any movement in the fence causes a small voltage to appear at the sensor cable output. The transducer sensor cable is equally sensitive over the entire zone length. Senstar tests every foot of cable for sensitivity. With this method of testing, you are assured the sensor works before incurring the labour required to place the cable on the fence.

The outer jacket of the cable is made from high density polyethylene rugged material that is resistant to ultraviolet rays.

Features:

- Equal sensitivity and easy to repair
- Linear sensor - tailor sensitivity as required
- Flexibility - change zone configurations easily



HELISENSOR - RUGGEDIZED TRANSDUCER SENSOR CABLE

The Helisensor is the electret transducer sensor cable encased in a 0.56 in. (1.4 cm) flexible metallic jacket, designed for use with the Senstar FPS series of signal processors. Helisensor is designed to be used in demanding areas where vandalism may be a problem or industrial sites where physical damage can occur. Helisensor can be attached to razor ribbon, concertina or barbed wire.

Helisensor is available in 328 ft. (100 m) lengths which can be coupled together for longer zones up to 984 ft. (300 m) total. Condulet hardware is included for end-of-line terminations and splicing. Helisensor can be installed on a standard chain link fence using the outdoor plastic cable ties provided or with optional stainless steel ties.



Helisensor features:

- Armored sensor cable
- Protects from physical damage and vandalism
- Easy to install
- Can be used on “razor ribbon”

INTEGRATION WITH OTHER SYSTEMS

Integration with other systems such as CCTV, access control, or general alarm panels is provided via the relay output from each zone of the PAK controller. By placing the controller in “auto acknowledge” mode, the controller will automatically reset a zone once the alarm condition is cleared.

SYSTEM EXPANSION

Zones: more than one PAK kit can be used to achieve the desired number of zones such as 6 or 8.

Zone lengths: can be extended (maximum sensor length for 1 zone is 1,000 ft. or 305 m) by the purchase of additional sensor cable.

Additional interconnection cable may also be required depending on the location of pre-amp/s and central controller.

SYSTEM RELIABILITY

The PAKs contain the same sensor technology and components currently used in some of the highest level security sites in the world.

2-PAK SERIES TECHNICAL SPECIFICATIONS

Dual zone pre-amp - Covers up to 2,000 ft. (610 m)

Connections: Removable plug-in terminal blocks

Tamper alarm actuation:

- Activated by either enclosure switch or transducer cable (short or cutting)
- Continuous alarm until corrected

Lightning protection: In / out lines protected by gas discharge arrestors and transorbs (90 V 5k amps)

Remote testing: Built-in self-test generator simulates actual intrusion signals

Operational temperature: -40° F to 158° F (-40° C to 70° C)

Size: 7 W x 6.5 H x 4.375 in. D (18 W x 17 H x 11 cm D)

Weight: Approximately 5 lbs. (2.27 kg)

MEX sensor cable

Type: 2 conductor coaxial

Half life sensitivity: 40 years

Outside diameter: 0.126 in. (0.32 cm)

Life expectancy: Greater than 10 years

Repair:

- Copper shielded transducer kit
- No heat gun or soldering required

Supervision:

- Constant impedance monitoring
- TSK kit provided with cable

Attachment: Ultraviolet resistant cable ties furnished with cable

Control unit - 1 unit

Power source: 16.5 V Class II plug-in power supply (inc.), two 6 VDC gel type rechargeable batteries provide 12 hours minimum standby power.

Alarm / tamper indication: Visual (LED) and audible signal

Internal controls: Sensitivity adjustments and count by means of internal DIP switch

Audio assessment: Auto on alarm or manual selection by zone

Remote system test: Selectable by zone

Relay outputs: Two isolated for alarm; one common for tamper (NO / NC)

Size: 6.25 W x 10.5 H x 4.5 in. D (16 W x 27 H x 11 cm D)

Weight: Approximately 6.5 lbs. (2.95 kg)

Interconnect cable - 1,000 ft. (305 m)

Type:

- 2 pair, individually shielded
- Low capacitance cable

Outside diameter: 0.257 in. (0.65 cm)

Jacket material: Direct burial, polyethylene

Conductors: 24 AWG, tinned, stranded copper

Helisensor - available as option on 2-PAK and 4-PAK

Circuit components: Two conductor coaxial

Outside diameter: 0.56 in. (1.4 cm)

Supervision:

- Constant impedance monitoring
- EOL condulet furnished with cable

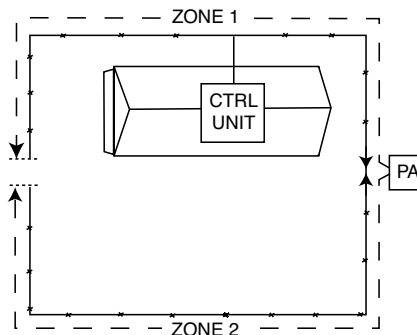
Repair: EOL condulet

Attachment:

- Ultraviolet resistant cable ties furnished
- Steel cable ties recommended for "barbed" type structures



Standard 2-PAK series components (Sensor cable sold separately)



Installation example

4-PAK SERIES TECHNICAL SPECIFICATIONS

Dual zone pre-amp - Covers up to 4,000 ft. (1,219 m)

Connections: Removable plug-in terminal blocks

Tamper alarm actuation:

- Activated by either enclosure switch or transducer cable (short or cutting)
- Continuous alarm until corrected

Lightning protection: In / out lines protected by gas discharge arrestors and transorbs (90 V 5k amps)

Remote testing: Built-in self-test generator simulates actual intrusion signals

Operational temperature: -40° F to 158° F (-40° C to 70° C)

Size: 7 W x 6.5 H x 4.375 in. D (18 W x 17 H x 11 cm D)

Weight: Approximately 5 lbs. (2.27 kg)

MEX sensor cable

Type: 2 conductor coaxial

Half life sensitivity: 40 years

Outside diameter: 0.126 in. (0.32 cm)

Life expectancy: Greater than 10 years

Repair:

- Copper shielded transducer kit
- No heat gun or soldering required

Supervision:

- Constant impedance monitoring
- TSK kit provided with cable

Attachment: Ultraviolet resistant cable ties furnished with cable

Control unit - 1 unit

Power source: 16.5 V Class II plug-in power supply (inc.), two 6 VDC gel type rechargeable batteries provide 12 hours minimum standby power

Alarm / tamper indication: Visual (LED) and audible signal

Internal controls: Sensitivity adjustments and count by means of internal DIP switch

Audio assessment: Auto on alarm or manual selection by zone

Remote system test: Checks complete system by zone

Dual mode operation: Select manual or automatic reset operation

Relay outputs: Four isolated for alarm; one common for tamper (NO / NC)

Size: 19 W x 7 H x 15 in. D (48 W x 18 H x 38 cm D)

Weight: Approximately 10 lbs. (4.54 kg)

Attachment:

- Standard unit is rack mounted
- Optional enclosure for free standing unit

Interconnect cable - 2,000 ft. (610 m)

Type:

- 2 pair, individually shielded
- Low capacitance cable

Outside diameter: 0.257 in. (0.65 cm)

Jacket material: Direct burial, polyethylene

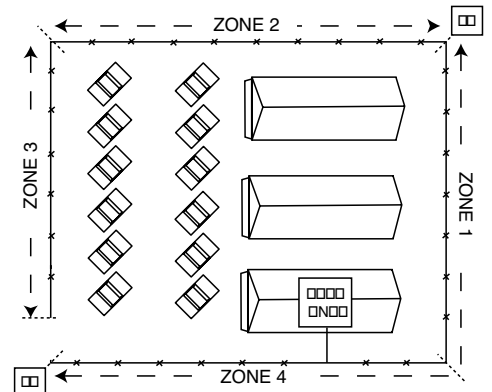
Conductors: 24 AWG, tinned, stranded copper

Part Number Table	
Part Number	Description
G2FG0201	Standard 2-PAK
G2FG0210	Helisensor 2-PAK
G2FG0101	Standard 4-PAK
G2FG0110	Helisensor 4-PAK
FPS interconnect, xK	Interconnect cable, x=1, 2, 3 for 1000, 2000 and 3000 ft.
xxxMEX	Standard sensor cable, xxx=length of roll in meters (100, 200, 300)
100 MHS	100 m Helisensor cable
TSK	Transducer Service Kit: end-of-line termination and splice
Dow Compound No. 4	Tube of sealing compound
100BNS	30 m non-sensitive lead-in cable
EOL condulet	Helisensor termination / coupling kit
G-condulet assy	Condulet termination with gland fitting for Helisensor cable

Specifications are subject to change without prior notice.



Standard 4-PAK series components (Sensor cable sold separately)



Installation example



Helisensor attached to razor ribbon

